

ORIGINAL



0000018766



SOUTHWEST GAS CORPORATION

50

April 1, 2005

Arizona Corporation Commission

DOCKETED

APR - 5 2005

Mr. Ernest Johnson
Arizona Corporation Commission
Utilities Division
1200 West Washington Street
Phoenix, AZ 85007

DOCKETED BY	<i>WJ</i>
-------------	-----------

Dear Mr. Johnson:

Southwest Gas Corporation (Southwest) herewith submits for filing an original and fifteen (15) copies of Southwest's Semi-Annual Demand Side Management Progress Report in redacted form. This report is being submitted in compliance with Decision Nos. 59685, 60352 and 61853 issued in Docket Nos. U-1551-96-189, U-1551-96-596 and G-01551A-99-0288, respectively.

Pursuant to discussions with members of the Utilities Division Staff, the Energy Advantage Plus section and the Appendix are considered to be confidential by Southwest and are designated as such. Southwest is providing you with a complete copy of the report, including the above-referenced pages, in an envelope marked "Confidential".

If you have any questions or comments on the attached report, please do not hesitate to contact me at 702-876-7163.

Respectfully submitted,

Debra S. Jacobson
For Debra S. Jacobson
Director/Government and State Regulatory Affairs

Enclosures

c ACC Compliance Division
Mr. Bob Gray, ACC

RECEIVED
2005 APR -5 A 8:56
AZ CORP COMMISSION
DOCUMENT CONTROL



SOUTHWEST GAS CORPORATION

SEMI-ANNUAL DEMAND SIDE MANAGEMENT REPORT

March 31, 2005

REDACTED

In accordance with the approvals received from the Arizona Corporation Commission in Docket Nos. U-1551-96-189 (Decision No. 59685), U-1551-96-596 (Decision No. 60352), and G-01551A-99-0288 (Decision No. 61853), Southwest Gas Corporation is submitting its Semi-Annual Demand Side Management Report.

ENERGY ADVANTAGE PLUS PROGRAM

In accordance with the approvals received from the Arizona Corporation Commission (Commission) in Docket No. U-1551-96-189 (Decision No. 59685), Southwest Gas Corporation (Southwest) submits its Semi-Annual Demand Side Management (DSM) Report (Report) on the Energy Advantage Plus (EA+) Program.

In Decision No. 59685, the Commission approved Southwest's EA+ program. The Decision also allows Southwest to modify the program to make improvements based upon its monitoring and evaluation findings, or upon changes in the baseline or building codes. Southwest must notify the Staff of its plans to extend and/or modify the program. The most recent approval was granted by the Commission Utilities Division Staff (Staff) on March 5, 2004, extending the EA+ program through calendar year 2004.

The EA+ program is a residential new construction program that was designed to upgrade the energy efficiency of new housing, through improved thermal shell construction and the installation of high-efficiency mechanical equipment. In addition, the program requires builders to participate in performance-based practices that address whole-house infiltration, duct leakage, and pressure balancing. Details of the program since the September 2004 Semi-Annual DSM Report are provided below.

Actual Program Costs

Actual EA+ costs for 2004 are presented in Table 1. The table indicates costs by quarter and by program element. Total costs are [REDACTED].

TABLE 1 ENERGY ADVANTAGE PLUS PROGRAM Actual Program Costs by Quarter January through December 2004					
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total
Administration	[REDACTED]				
Training and Education					
Measurement and Evaluation					
Materials and Media					
Co-op Incentives					
Total	[REDACTED]				

A comparison of actual vs. estimated costs for the program is presented in Table 2.

TABLE 2 ENERGY ADVANTAGE PLUS PROGRAM Budget vs. Actual Program Costs January through December 2004			
	Budget	Costs	(Over)/Under
Administration			
Training and Education			
Measurement and Evaluation			
Materials and Media			
Co-op Incentives			
Total			

Participation, Inspections, and Energy Savings

A total of [REDACTED] builders have been involved in EA+ over the life of the program. The cumulative number of homes participating in the program has reached [REDACTED]. At present, the larger subdivision builders in Tucson are continuing to upgrade their energy-efficient building techniques and construction features to meet or exceed the EA+ program standards. Statistics on participating homes for the year 2004 are presented in Appendix A.

In recent years, the EA+ program has focused on heating, ventilation, and air conditioning performance (primarily the layout and support of duct runs). Additional energy-efficiency features include mandatory mastic sealant, minimized duct leakage, the disallowance of unducted returns, and a designed return path from the master bedroom to the main body of the house. For non-EA+ homes in the Tucson area, the average duct leakage rate is typically [REDACTED]. In contrast, average duct leakage for EA+ homes is [REDACTED].

Table 3 summarizes the number of inspections that Southwest completed in 2004.

TABLE 3 ENERGY ADVANTAGE PLUS PROGRAM Inspection Summary (January – December 2004)	
Duct Blast	
Insulation	
Blower Door	
Total Inspections	

Following inspections, Southwest provided the various insulation and mechanical contractors with immediate evaluations of their work on EA+ homes. Any deficiencies were addressed and corrected by the contractors. Contractors have demonstrated an increased willingness to correct problems and commit to better performance in the future. Homebuilders value the quality assurance and safeguards on contractor performance that the EA+ program provides. In addition to reviewing the ductwork, ongoing inspections have resulted in better duct runs and substantial

improvement in the installation of insulation. The quality of ceiling/wall insulation is also inspected to ensure compliance with program criteria.

Partnerships, Training, and Education

The Arizona Department of Commerce Energy Office (AEO) provides ongoing financial and consultative support for EA+ educational activities. The AEO plays an important advisory role with regard to energy-efficient building practices.

Another important partnership for the program involves the Architectural Energy Corporation (AEC). The AEC is the creator of the REM/Rate software that Southwest has used for over five years. REM/Rate is the premier home energy rating software approved by the United States Department of Energy.

Southwest continues to be an accredited Home Energy Rating System (HERS) provider, a certification that was originally granted in 2002. HERS is a uniform system that the Residential Energy Services Network (RESNET) devised for rating homes. RESNET is the national organization that directs guidelines and policy for home energy rating activity. The REM/Rate software that Southwest utilizes is an approved software to produce the HERS rating.

With regard to training and education, Southwest has found that builders often prefer individualized on-site training sessions. These sessions can be customized for specific builder needs, often identified by Southwest's EA+ field staff. The staff conducts regular training sessions, either informally or formally, with specific subcontractors. Such training results in the correction of faulty techniques, increased competency levels, better-performing homes, lower energy bills, and greater occupant comfort. During 2004, individualized training sessions were held with [REDACTED].

Program Communications

In the past, Southwest has used various communication methods, including newspaper, radio, direct mail, brochures, collateral items, special events, seminars, and a toll-free telephone number to heighten the public's awareness of the EA+ program. However, in 2004, Southwest decided to curtail these forms of communication. The rationale for the curtailment was that Southwest had decided to terminate the EA+ program at the end of 2004. Thus, there was no need to promote the program or encourage additional builder participation.

Early in 2004, Southwest discussed with builders participating in the EA+ program that significant improvements in both building envelope construction and efficient equipment installation had been achieved in Tucson homes. Southwest also informed the builders that successful market transformation had occurred and that major program goals had been met. In addition, Southwest notified builders that the program would officially end on December 31, 2004. In April 2004, Southwest sent letters to builders reminding them that they could continue to request qualifying cooperative incentives through November 15, 2004. Builders were disappointed to learn that the program was ending and asked Southwest to reconsider its decision

to end the program.

Based on builder feedback and the need to continue performance monitoring to ensure compliance with higher building standards, Southwest has since reconsidered its decision to terminate the EA+ program. A further discussion of this decision is included in the following Program Evaluation section of the report.

Program Evaluation

Because the EA+ program and the building industry are dynamic in nature, Southwest has continuously monitored the factors that impact the program. These factors include participation rates, program costs, energy savings, and homebuilding standards.

Recent energy-efficiency code legislation in Arizona has established the voluntary adoption of new building codes statewide. These codes, referred to as the 2000 International Energy Conservation Code (IECC), have been adopted in Tucson. The IECC sets stricter standards for residential construction.

In recent years, the percentage of new homes participating in the EA+ program has exceeded █ percent of the Tucson market. While these statistics do not represent a full market transformation, it is likely that the enforcement of the new IECC codes will further transform the energy-efficient residential new construction market in Tucson.

Southwest believes that continuing a modified version of the EA+ program would benefit new homebuyers in Arizona. The modified program would continue to provide builder/contractor training, plan review, and random inspections for participating homes. These activities would ensure that existing building codes and installation standards are being met. Southwest will be filing a proposal with the Commission in 2005, recommending that the EA+ program be continued at a funding level of █.

Southwest will continue to work closely with the Staff to identify desirable DSM programs, in light of the new IECC and other factors noted above. Southwest remains committed to the DSM concept and will continue to pursue cost-effective, energy efficiency programs for its Arizona customers. Southwest will bring such programs to the Commission for consideration and approval.

LOW-INCOME ENERGY CONSERVATION PROGRAM

Southwest submits its Semi-Annual DSM Report on the Low-Income Energy Conservation (LIEC) program, in accordance with the approvals received from the ACC in Docket No. G-01551A-99-0288 (Decision No. 61853). The LIEC program originated in 1998, and has been conducted through the AEO's statewide weatherization program. In July 2004, the Commission granted an extension of the LIEC program through June 2007.

Program Activity

During the first half of the program year (July 1, 2004 through December 31, 2004), 101 households were served, with expenditures totaling \$148,104. These funds were spent in four major categories: (1) duct repair; (2) infiltration control; (3) attic insulation; and (4) replacement of natural gas furnaces which were not operational or posed a health hazard.

The AEO continued its efforts to ensure the cost-effectiveness of this program. Every job submitted was carefully reviewed for accuracy of the work completed and the funding sources being charged. Because each agency has several funding sources with different guidelines, determining the appropriate source for each section of a job can be very complicated. The AEO and Southwest have worked closely with the agencies to find the best fit for all parties involved.

Program Promotion and Outreach

Southwest combines the promotion and outreach activities for both the LIEC and Low-Income Residential Assistance (LIRA) programs. The LIRA program provides discounted rates for natural gas service to qualifying customers. Southwest provides quarterly bill inserts in English and Spanish, sponsors an annual meeting with the community agencies, and attends a variety of community events to distribute information to the public. In addition, an annual supply of LIRA applications that include LIEC information is sent to approximately 150 community agencies statewide.

Program Costs

The annual program runs from July through June, as do the other federally-funded programs administered by the AEO. Table 4 shows the financial details for the first half of the 2004/2005 program year.

TABLE 4 LOW-INCOME ENERGY CONSERVATION PROGRAM Budget and Costs July 2004 – December 2004 (Program Year July 1, 2004 – June 30, 2005)			
Category	Budget	Costs	(Over)/Under
Measures			
Weatherization	\$ 167,500	\$ 121,043	\$ 46,457
Health and Safety	60,000	3,394	56,606
Special Project	60,000	0	60,000
Training and Monitoring	10,000	5,000	5,000
Administration			
Agencies	35,000	9,917	25,083
Arizona Energy Office	17,500	8,750	8,750
Total	\$ 350,000	\$ 148,104	\$ 201,896

Note: Total program-year costs listed above were provided by the AEO and do not precisely match the costs booked to Southwest's accounting system, due to timing differences. Lag times exist from the time when work is completed, invoices are received, and invoices are paid/recorded.

Special Projects

In order to increase the use and effectiveness of program funds, Southwest has allocated a portion (approximately \$60,000 annually) of the LIEC funds for cost-effective special projects. The LIEC Special Projects category is designed to make funds available for large, multi-family projects. All projects must follow the established program guidelines. The higher-than-normal savings from these projects help offset the less energy-efficient health and safety measures included in the program and assist in keeping the LIEC program cost-effective overall.

Distribution of these funds is on a competitive basis, using the following criteria:

1. Cost-effectiveness of the projects;
2. Partnerships with additional entities; and
3. Agency production to date.

A review committee consisting of housing professionals from the AEO and Southwest, who are not directly administering the program, carefully review all applications and determine which projects are funded each program year. During the 2004/2005 program year, Maricopa County Human Services' Community Services Division was awarded \$50,000 for the Buckeye Villas Apartments project--a multi-family HUD-certified Section 8 housing complex. Work will be completed during 2005.

Training and Education

The AEO continued to enhance the training provided to both field and administrative personnel of the agencies conducting the statewide program. Southwest believes well-trained and experienced personnel are essential to a successful program. Listed below is a sample of the training conducted.

Peer-to-Peer Training

The LIEC program continued to utilize the Arizona weatherization program's Peer-to-Peer training courses. These courses utilize the agencies that have the experience and skills needed to successfully implement the weatherization program. This knowledge is shared with other agencies throughout the state. The training consists of one day of classroom training and two or three days of field training. The crews work and learn with other crew members. The peer-to-peer technical training includes Pressure Diagnostic, Health and Safety, and Applied Building Science.

Pressure Diagnostic: This section of the course provides classroom and field training on testing and repairs of homes with air leakage and/or room pressure problems. The training includes the use of blower doors, manometers, smoke generators, and duct air-tightness testing.

Health and Safety: This portion of the course provides classroom and field training on the testing and repair of possible safety problems. The training includes the use of blower doors and manometers.

Applied Building Science: This section of the course covers current building science theory and practical experience focused on building design, construction techniques, materials, and HVAC equipment. There is also a follow-up investigation to determine what effects these measures have on building occupants.

REM/Design Training

Training was also provided to the agencies on the use of the REM/design (Residential Analysis) software. This training instructs the attendees on the use of software for estimating annual heating, cooling, and water heating use, the potential savings of retrofit measures, and the cost-effectiveness of retrofit measures.

Peer-to-Peer Fiscal and Technical Procedures

The Arizona weatherization program has formed peer-to-peer working groups that allow the fiscal and technical staff from the agencies and the AEO to meet and discuss issues that arise in the program. Agencies are able to share solutions to common problems and other information.

Improvements to the Statewide Weatherization Assistance Program

The AEO will be implementing the procedures listed below to ensure that the statewide weatherization program is providing Southwest and the other funding sources with a cost-effective program, while also maintaining or improving health and safety.

Enhanced Training

As part of the statewide weatherization program, the AEO has begun to implement an enhanced training program. This started with the opening of a training center, located at the Foundation for Senior Living office/warehouse. The training center will provide field personnel with the knowledge and skills needed to successfully implement the program. The training center will be developed in phases. The initial phase of the training center will consist of a pressure diagnostic training lab and repair workstations. Future phases may include labs geared toward combustion appliances, refrigeration, and computer technology.

Agency Personnel Performance Reviews

The statewide weatherization program is in the process of developing criteria to evaluate the competency of agency personnel performing the various requirements of the weatherization program. The goal is to have evaluation procedures developed and operating by the end of the 2004/2005 program year.

Inspections

The AEO plans to conduct field inspections on a minimum of 15 percent of completed jobs. Inspections consist of verifying diagnostic results, measures completed, and appropriateness of decisions made by the field technicians. The AEO also reviews 100 percent of the technical reports submitted.

DEMAND SIDE MANAGEMENT ADJUSTER

Southwest submits its Report on the DSM Adjuster Mechanism (DSMAM), in accordance with the Settlement Agreement approved by the Commission in Docket No. U-1551-96-596 (Decision No. 60352).

The DSMAM is designed to allow Southwest ongoing recovery of its DSM program costs. A total of \$1,445,004 was collected through the DSMAM surcharge during 2004. Table 5 presents the costs, recoveries/interest, and balance collected by quarter. Actual costs incurred (shown in previous cost tables by program) may vary from the costs recorded below for two reasons: 1) advances to program administrators; and 2) timing differences. Timing differences exist from the time work is completed, invoices are received, and invoices are paid/recorded.

TABLE 5 ARIZONA DSM ADJUSTER MECHANISM Actual Costs and Recoveries Booked by Quarter for 2004					
Description	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total
Energy Advantage Plus	\$ 11,090	\$ 165,602	134,038	306,078	\$ 616,808
Low-Income Energy Conservation	80,907	44,016	173,390	41,905	340,218
Total - Costs Booked 2004	\$ 91,997	\$ 209,618	\$ 307,428	\$ 347,983	\$ 957,026
Total - Recoveries, Interest & Adjustments 2004	(\$ 734,324)	(\$ 205,784)	(\$128,877)	(\$376,019)	(\$ 1,445,004)
Balance Carried Over from 2003					\$ 355,608
Balance DSM Deferral Account as of June 30, 2004					(\$ 132,370)

On March 5, 2004, the Staff approved a revised adjuster rate of \$0.00486 per therm that was applied to Southwest residential customer bills (Schedule Nos. G-5, G-10, G-15, G-16 and G-20) beginning on April 1, 2004. Southwest continues to calculate and report the DSMAM rate as established by the Commission. On February 1, 2005, Southwest submitted a revised rate of \$0.00220 per therm, effective on April 1, 2005, for approval. The Commission has yet to act on that request.

APPENDIX A

ENERGY ADVANTAGE PLUS PROGRAM Number of Homes, Inspections, and Energy Savings by Builder/Subdivision

APPENDIX A - ENERGY ADVANTAGE PLUS PROGRAM
Number of Homes, Inspections, and Energy Savings by Builder/Subdivision

Grand Total